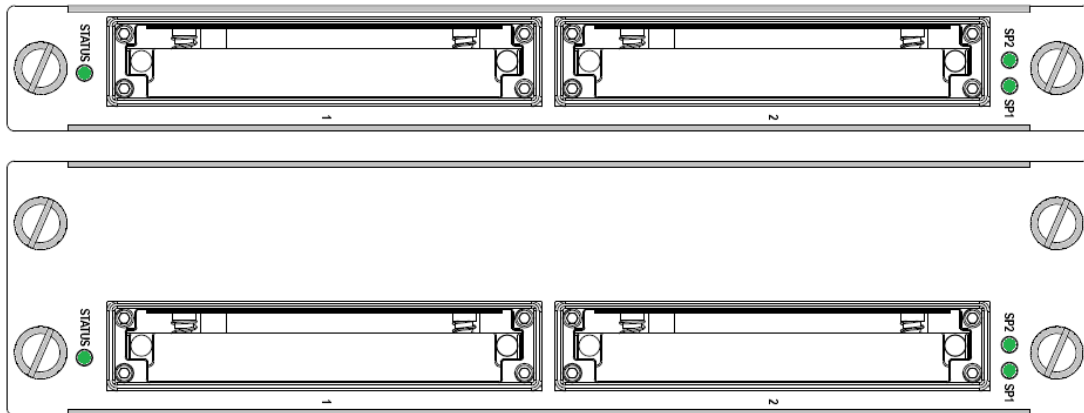


# Transponder: 100G Transparent

## OD-TXP100G

OptiDriver Transparent 100G Transponders are 3R regenerators that add no additional overhead to the signals on the client or line side. With appropriate pluggable CFP optics installed, these unique modules transparently convert between selected 100Gbps interface types. The 100Gbps Transparent Transponder offers unprecedented density, with up to sixteen 100Gbps transponders and supporting optical hardware (OADM, EDFA, Raman, DCM, etc.) in a single 10RU OptiDriver OD-48- HD chassis.

The OD-TXP100G module occupies 2H x 1W slots (2 high and 1 wide) in any OptiDriver chassis that is partitioned to support modules of this size. The OD-TXP100G supports high port density applications and all CFP transceiver power classes 1, 2, 3, and 4.



Earlier transponder models included a single-width and a dual-width model to accommodate different optical power dissipation requirements.

The OD-TXP100G-2C module occupies 2H x 2W slots (2 high and 2 wide) in any OptiDriver chassis that is partitioned to support modules of this size. The OD-TXP100G-2C supports CFP transceiver power classes 1, 2, 3, and 4, including Coherent transceivers with FEC options on port 1.

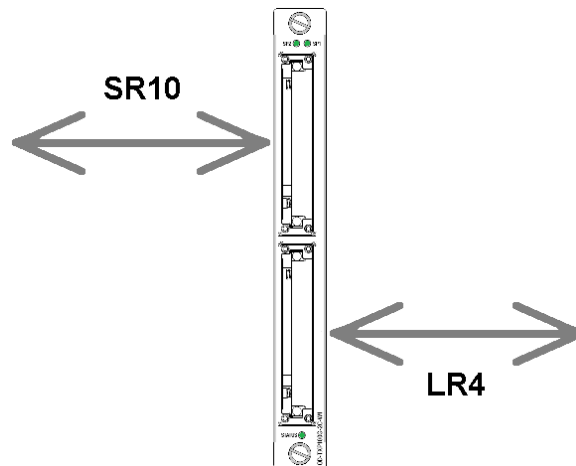
The OD-TXP100G-2C-W1 module occupies 2H x 1W slots (2 high and 1 wide) in any OptiDriver chassis that is partitioned to support modules of this size. The OD-TXP100G-2C-W1 supports higher port density applications than the larger module. However, the narrow module supports only CFP transceiver power classes 1, 2, and 3 because of lower heat dissipation capacity.

## Applications

The OD-TXP100G transparent transponder extends an optical data link through 3R grooming.

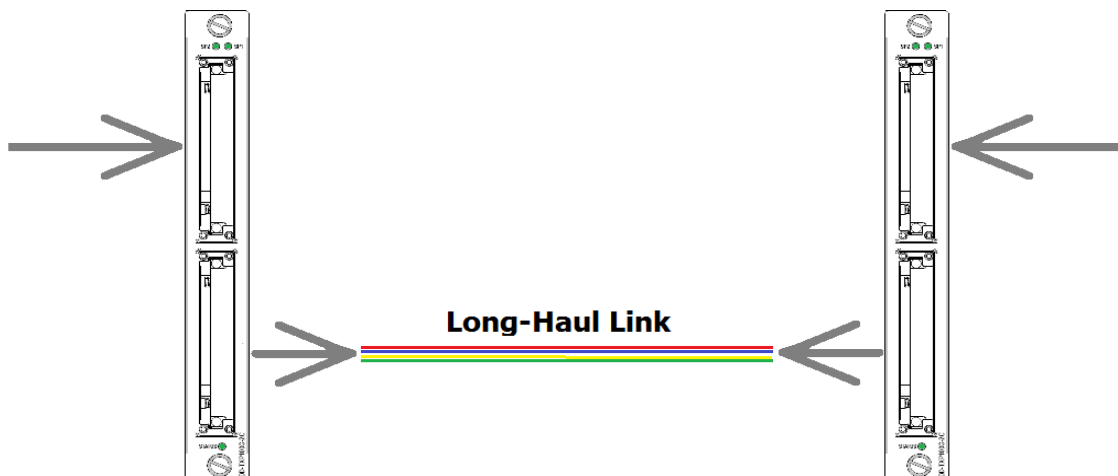
Local network devices may use Ethernet or OTN protocols for local services. The module receives a local Ethernet or OTN signal from one port, performs 3R optical grooming on the signal, and passes it transparently through the other port. There is no added OTN wrapper or FEC overhead, so end-to-end transport is transparent.

The first example below shows a MM to SM media conversion transponder commonly used in routing or distance extension applications.



The second example shows a long-haul DWDM link between a pair of TXP100G modules. DWDM devices at each end of the link can use the DWDM signal transparently as if they were connected directly.

In either application, MM to SM conversion or DWDM long haul, the module can ensure that the trunk side wavelength matches the wavelength plan of the overall DWDM network. Optional amplification can further increase the link span.



## Highlights

Feature	Description
2 CFP ports	Connected "back-to-back" internally
MSA-compliance	CFP support including Digital Diagnostics (DD)
Status LEDs	Front panel indicators for module status and port link
Re-loadable firmware	On-site upgrades to support new technology
Hot swap	Changeable hardware configurations in chassis without disrupting other traffic
Loopback	Data circuit testing
Performance monitoring	Individual port status with alarms
Heat status	Temperature monitoring on the module
Protocols	<ul style="list-style-type: none"> <li>• 100 GbE LAN</li> <li>• OTU4</li> </ul>
Forward Error Correction (Trunk)	FEC supported by Coherent CFP transceivers on port 1 only
Management interfaces	Provided through the management module

Refer to MRV sales for compatible CFP transceivers available.

Module	Transceiver Support
OD-TXP100G	CFP classes 1-4

Old Module	Transceiver Support
OD-TXP100G-2C	CFP classes 1-4
OD-TXP100G-2C-W1	CFP classes 1-3

## Specifications

Electrical Power (maximum)		
TXP100G	empty	18 Watts
TXP100G	optics in	84 Watts (sampled)
TXP100G-2C	empty	18 Watts
TXP100G-2C	optics in	84 Watts (sampled)
TXP100G-2C-W1	empty	18 Watts
TXP100G-2C-W1	optics in	70 Watts (sampled)

Physical				
		TXP100G	TXP100G-2C	TXP100G-2C-W1
H x W	slots	2 x 1	2 x 2	2 x 1
H x W x D	mm	214 x 25 x 225	214 x 51 x 225	214 x 25 x 225
H x W x D	inches	8.5 x 1.0 x 9.0	8.5 x 2.0 x 9.0	8.5 x 1.0 x 9.0
Kilograms	kg	0.6	0.8	0.6
Pounds	lbs	1.3	1.8	1.3

Environmental (assuming maximum power CFP application)			
	TXP100G	TXP100G-2C	TXP100G-2C-W1
Temperature (operating)	0° C to 50° C (32° F to 122° F)	0° C to 50° C (32° F to 122° F)	0° C to 40° C (32° F to 104° F)
Temperature (storage)	-40° C to 70° C (-40° F to 158° F)		
Relative Humidity	85% maximum, non-condensing		
Regulatory Compliance	<ul style="list-style-type: none"> <li>• FCC Part 15, Class A</li> <li>• IC, Class A</li> <li>• EMC Directive: Emission (Class A) and immunity</li> <li>• WEEE Directive: Wheelie Bin Mark</li> <li>• RoHS 2 Directive</li> <li>• China RoHS</li> </ul>		

Operational	
Latency (observed)	0.09 us to 0.93 us (varies with CFP)